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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile-Satellite Service in the 1610-1626.5/2483.5-2500 Frequency Bands	)	CC Docket No. 92-166

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COMMENTS

OF

CONSTELLATION COMMUNICATIONS, INC.

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EXECUTIVE SUMMARY

Constellation Communications, Inc. ("Constellation") is one of the five applicants proposing a low-Earth Orbit ("LEO") satellite system in the 1610-1626.5 MHz and 2483.5-2500 MHz bands. Created by three small, high technology companies in 1991, Constellation is assembling a world-class team of United States and foreign corporations who are ready, willing and fully capable of implementing a high quality, cost effective LEO satellite system.

From the beginning of this proceeding, Constellation has urged the Commission to establish a fully competitive mobile-satellite service ("MSS") industry in the United States characterized by a multiplicity of licensees and business plans. Just as the country has reaped the benefits of competition and deregulation in the domestic fixed-satellite industry, the Commission is in a position to create a similarly competitive domestic MSS industry to provide the mobile and personal communications that the public demands now and in the future. Moreover, the unique characteristics of the proposed LEO systems will allow the Commission's licensees to export these services globally to the benefit of United States as well as foreign consumers.

The key issue facing the Commission is resolving the question of mutual exclusivity among the pending applicants. Constellation fully supports the Commission's proposal to limit the use of these bands to non-geostationary satellites, and believes that the existing, exclusive licensee of geostationary satellites

in the conventional MSS L-band should be disqualified from also holding a license in the 1.6/2.4 GHz MSS in competition with the new entrants. The challenge remaining is to fashion a frequency assignment scheme that allows the prompt grant of licenses to the remaining five LEO applicants so that they can succeed or fail in the marketplace without Commission intervention.

Although Constellation originally requested the assignment of 2 MHz in the 1610-1626.5 MHz band (specifically 1624.5-1626.5 MHz) for its subscriber unit uplinks, it has nevertheless supported an interference sharing approach among systems using code division multiple access ("CDMA") techniques as a means of resolving this proceeding and promptly issuing licensees to the five pending LEO applicants. As illustrated in Appendix B to these comments, there are significant costs associated with CDMA interference sharing. Such costs can, however, be minimized with properly sized and designed systems and appropriate coordination among the operators. This approach provides the Commission the flexibility it needs to grant all of the pending applications now without having to prejudge the success of the individual applicants in the marketplace.

The Commission's proposed L-band frequency assignment plan does not resolve the question of mutual exclusivity unless all five applicants agree to it and amend their applications to conform to any such agreement. All parts of the 1610-1626.5 MHz band are not equally desirable because of actual or potential problems

with sharing the frequencies with other radio services (i.e. radio astronomy and Glonass). Furthermore, the Commission's proposal fails to recognize this inequity in that it assigns the most desirable part of the L-Band spectrum exclusively to one applicant to the detriment of the other four. Absent a comparative hearing or some alternative selection scheme, the Commission can not simply deny Constellation's application to use the most desirable L-Band frequencies.

Constellation has been working with the other LEO applicants to reach a mutually agreeable settlement to this proceeding, and will continue to do so. Despite its flaws, Constellation is willing to consider acceptance of the Commission's L-Band frequency assignment plan as a compromise provided that (1) a contingency plan is agreed to if the 1610-1616 MHz band is impaired as a result of Glonass operations; (2) an intra-service coordination mechanism is established to allow different system architectures to be implemented in an equitable fashion; and (3) the CDMA applicants are allowed to share the entire 2483.5-2500 MHz Band.

Constellation is also disappointed with the Commission 's failure to make the 5150-5250 MHz band available for feeder links, but will participate in the CC Docket 92-297 proceedings considering the use of the Ka-band for LEO MSS feeder links. However, Constellation is concerned with the adverse cost and operational impact use of Ka-band will have on its system and urges the Commission to make every effort to make the 5150-5250 MHz band available for feeder links or to identify another acceptable feeder link band between 3 and 15 GHz.

Constellation generally supports most of the remainder of the Commission's rule proposals as the minimum set of service rules needed to establish a competitive domestic MSS industry. Constellation does, however, have some concerns about the details of some of the proposed rules which it believes can be easily rectified with the specific amendments proposed in Appendix A of these comments.

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COMMENTS OF CONSTELLATION COMMUNICATIONS, INC.

Constellation Communications, Inc. ("Constellation"), by its attorney, files these Comments in response to the Commission's Notice of Proposed Rulemaking, 9 FCC Rcd 1094 (1994) ("Notice") in the above-captioned matter.

I. Introduction

Constellation is one of the five companies that filed an application to construct a Low-Earth orbit ("LEO") satellite system in the 1610-1626.5 and 2483.5-2500 MHz bands prior to the June 3, 1991 cut-off date. This system is to provide mobile-satellite service ("MSS") and the radiodetermination-satellite service ("RDSS").[1] Constellation's initial technical partners were Defense Systems, Inc., MicroSat Launch Systems, Inc., and Pacific Communications Sciences, Inc. These

[1] See Application File Nos. 17-DSS-P-91(48) and CSS-91-013. These applications were accepted for filing by the Commission by Public Notice Report No. DS-1134, released October 24, 1991. Constellation also filed a Petition For Rule Making to establish service rules governing non-geostationary satellites in these bands which was assigned File No. RM-7771 in Public Notice No. 14747, released September 13, 1991.

technologically innovative companies provided the foundation for Constellation's system design and business development plan. Constellation is currently assembling a team of major corporations that will assist in the implementation of its system and will announce additional strategic partners in the near future.

Constellation's basic implementation approach remains "... an evolution over time from the initial low-cost satellites needed for an economically viable satellite system when market penetration is low to the more expensive, high capacity satellite designs that may be eventually required to satisfy a fully developed market."[2] Constellation's application and rulemaking petition focused on providing a means for the Commission "... to issue multiple licenses with the knowledge that with proper sizing, each licensee has a chance to become profitable and bring the benefits of competition to the consumer."[3]

Constellation's original system design proposed the use of the 1624.5-1626.5 MHz on an exclusive basis for narrow band uplinks from user terminals using frequency division multiple access ("FDMA") techniques. Downlinks to user terminals were in the 2483.5-2500 MHz band on a shared basis with other LEO systems. Constellation proposed to operate its feeder links in the 6.5 and 5.1 GHz bands currently available for feederlinks to RDSS satellites.[4]

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[2] Constellation Application, supra note 1, at 2.

[3] Constellation Application, supra note 1, at 12.

[4] Constellation Application, supra note 1, at 1 and Appendix A, at 17-19.

Constellation has fully participated in all of the proceedings relating to the allocation of frequency and assignment of licenses for LEO satellite systems proposing to operate in the 1610-1626.5 and 2483.5-2500 MHz bands. This includes participation as a member of the United States delegation to the 1992 World Administration Radio Conference ("WARC") and related domestic and international preparatory meetings. Constellation was also a full participant in the Commission's Negotiated Rule Making ("NRM") advisory committee that met from January to April 1993 and has been working with other applicants both before and after the NRM committee meetings to develop consensus views on how this proceeding should be resolved.

During the pendency of these proceedings, Constellation has been reviewing its system design with the view toward improving spectrum efficiency and better accommodating sharing conditions in the bands.[5] At the beginning of the NRM meetings, Constellation provided an updated description of its system design which substantially increased system capacity.[6] A further upgrade of Constellation's system, including the use of code division multiple access ("CDMA") in both the inbound and outbound links, is reflected in the system parameters used in Appendices B and C to these Comments.

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[5] E-Systems Corporation has provided substantial system engineering support to Constellation and assisted in the preparation of these comments. E Systems is a large, (No. 213 on the Fortune 500 list of largest U.S. industrial corporations), high technology company that specializes in advanced communication systems.

[6] See Doc. MSSAC-12.

The Commission's Notice represents a major step towards the culmination of this proceeding and the establishment of a new and valuable service to the public. Constellation supports the specific rules proposed in the Notice that were recommended in the "Report of the MSS Above 1 GHz Negotiated Rulemaking Committee" dated April 6, 1993 ("Final Report") and were adopted unanimously by the NRM committee.[7] Constellation also supports most of the services proposed for the 1.6/2.4 GHz MSS with the changes contained in Appendix A to these Comments.

Two major areas remain outstanding. One is the absence of an agreement on an L-Band frequency assignment plan. Despite its flaws, Constellation is prepared to support the Commission's proposals in the Notice in order to move this proceeding forward as long as the modifications and clarification discussed below are implemented. The other unresolved area concerns the bands available for feeder links and Constellation will support the Commission's efforts to resolve this matter in the various proceedings currently underway. In order to implement any agreed upon sharing plan, Constellation urges the Commission to afford qualified[8] applicants the qualified opportunity to amend their pending applications subsequent to the adoption of rules in this proceeding.

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[7] Specific rule texts were presented only in Section 5.1 of the Final Report. Although recommendations were made in Section 5.2 of the Final Report that could lead to rules, specific rule texts were not agreed upon in the Committee.

[8] Notice, at para. 18.

II. The Licensing Of LEO Satellite Systems In The 1.6/2.4 GHz Bands Will Result In Significant Benefits To The Public

Constellation supports the Commission's proposal that the 1610-1626.5 MHz and 2483.5-2500 MHz bands be limited to LEO[9] satellite systems and to exclude satellites operating in the geostationary satellite orbit ("GSO") from the 1.6/2.4 GHz. A compelling public interest case can be made to reserve the 33 MHz of spectrum in these bands for LEO systems.[10]

A. The 1.6/2.4 GHz MSS will Produce Significant Social, Economic and Technical Benefits

Both developing and developed countries will benefit from the services to be provided by LEO satellite systems operating in the 1610-1626.5 MHz and 2483.5-2500 MHz bands. Developing countries will benefit from immediate access to a basic telecommunications infrastructure provided by LEO satellites. Developed countries will benefit by the complete fill-in provided for existing cellular networks and for future intelligent network and personal communication services.

Ground based telecommunications facilities are not cost effective in regions with few roads or difficult terrain. For developing countries, the social benefits of a

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[9] Constellation will follow the Commission's practice of using the term "LEO" to refer to any non-geostationary satellite system. See Notice, at n. 6.

[10] Currently designed geostationary MSS satellites can not share the same bands with non-geostationary MSS satellites because of the difference in technical parameters. While the Final Report concluded that satellite altitude was not an issue per se in the feasibility of LEO and geostationary sharing, this conclusion applied only to properly designed systems using compatible power levels and modulation characteristics. This is not the case with the GSO MSS satellites currently in operation or under construction.

modern telecommunications infrastructure may be difficult to quantify. But the social benefits include keeping in touch with families, summoning medical assistance, organizing basic needs like water, food and energy, and better integration of a country's social and political fabric. Economic benefits also accrue, particularly from the connection of remote business locations in basic industries with major transport and business centers.

The United States economy and workforce are likely beneficiaries of the opportunities afforded by the introduction of new LEO technology. One report[11] forecasts a cumulative market for $6 billion in satellites, $3.9 billion in launch vehicles and insurance, $4 billion in ground facilities and $1.5 billion in mobile subscriber terminals by 2010. Another report[12] projects 22 million subscribers and $20 million revenues in 2004 for this technology worldwide. Even though LEO satellite systems will necessarily involve participation by other countries, the sheer size of this market will ensure that economic benefits and new job opportunities are spread across wide sections of the United States economy.

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[11] "Satellite Personal Communications: Main Report to the European Commission," March 1994, Figure 3.28.

[12] "Low-Earth Orbit Satellite Personal Communications Services Markets, Worldwide," International Resource Development, Inc., February 1994, Table 1-2.

B. The Benefits of the 1.6/2.4 GHz MSS will be Maximized Through LEO System Technology

Existing MSS satellite systems operating in the GSO are characterized by earth coverage or regional antenna coverage beams, long path delays, and low elevation angles over large portions of their service areas. These characteristics have restricted GSO MSS satellites as a practical matter to serving large platforms, such as large ships, passenger aircraft and trucks which are capable of supporting medium-to-high gain antennas and transmitters operating at about 10 watts or more.

LEO satellites, on the other hand, inherently allow service to be provided to small, lightweight user terminals employing low gain, non-directional antennas and transmitters normally operating at less than 1 watt. In order for GSO satellites to match these capabilities, large deployable antennas as large as 50 feet in diameter are needed adding substantial cost and risk to the GSO system.

The longer time delay resulting from the longer distance to and from GSO compared to LEO cannot be reduced. Nor can the lower elevation angles available to subscribers as the distance from the sub-satellite point increases be improved. LEO satellites overcome both of these inherent limitations of GSO MSS systems. The delay to LEO satellites is a small fraction of that to GSO satellites because of their lower altitude. For most regions of the earth, LEO satellites will operate at relatively high elevation angles above foliage and other path obstructions for large periods of time.

Moreover, because there are a large number of satellites in a LEO system, the service reliability of LEO systems is likely to be higher than GSO systems because LEO systems are relatively robust in the face of satellite failures. A GSO satellite needs dedicated in-orbit spare satellites to maintain continuity of service in the event of a satellite failure since a particular service area is associated with a single satellite. A single LEO satellite failure, on the other hand, results in only a short period of time in which service is lost. Within a few minutes, another LEO satellite will come into visibility to restore service to that particular point on earth.

In summary, LEO satellites are a means of providing lower cost and more reliable MSS service than GSO systems. For most users outside urban areas, there are unlikely to be economical or spectrum efficient terrestrial radio facilities to meet their needs. While GSO MSS systems may be able to satisfy some of these needs, it is likely to be at higher cost than is possible with LEO systems.

C. The Constellation LEO Satellite System Provides a Specific Example of How the Benefits of the 1.6/2.4 GHz MSS will be Realized in Practice

The Constellation system is a specific example of the benefits that can be achieved from LEO MSS satellite systems in the 1.6/2.4 GHz bands. These benefits flow not only from the services to be provided by the Constellation system, but also from the organizational and operational structure Constellation will establish in the course of implementing its system.

Constellation is currently focusing its service development on the provision of cellular quality voice service, including voice bandwidth data and facsimile as its basic transmission service. Mobile customers will be provided service through vehicular (cars, trucks, boats, airplanes, etc.), portable and eventually handheld subscriber units. Constellation's customers include professional, government and business users in rural areas not served by terrestrial mobile radio facilities and similar users who employ dual mode terminals as they travel over wide areas for seamless mobile service from a combination of terrestrial and satellite facilities. In addition, this basic transmission service will be used for rural telephony where it doesn't exist today. Using LEO technology, even poor, remote villages can be linked into the world-wide public switched telephone network by means of the Constellation LEO satellite system.

Constellation is establishing a consortium of United States and foreign companies who will provide the investment needed to build and launch the Constellation space segment. Retail services to the end subscribers will be provided by one or more national service providers in each country. The national service providers will be responsible for providing gateway earth station services, connection to the public switched telephone network, billing and administrative services, and subscriber terminal registration and commissioning. Basic transmission services are obtained from the Constellation space segment on a wholesale basis, and the national service provider can retail the overall service to subscribers in its

territory either on a stand alone basis or bundled as part of a broader service package.

Based on the foundation of Constellation's basic transmission service, a broad range of new and innovative services can be developed to respond to global, industrial and national needs. Such applications can build upon the seamless national and global coverage made possible by LEO satellite technology, either as a stand alone satellite offering or as a low cost, dual mode satellite/terrestrial offering. Constellation's LEO satellite system will provide the means for national service providers to extend the range of their existing fixed, cellular and future personal communications services and intelligent network features. In this way, Constellation's LEO satellite system will extend services provided over urban radio and wireline networks to national and global coverage.

The range of user applications of the Constellation system will extend far beyond basic mobile and rural telephony and advanced personal communication services. Doppler ranging and differential GPS will provide different levels of position determination accuracies to users who desire such services. Value-added services combining voice and data communications and position determination will greatly expand the utility of the Constellation system. Such integrated applications could include disaster management, search and rescue, fleet and remote asset monitoring and control, intelligent vehicle highway systems, paging and dispatch, remote security, environmental monitoring and control, and traveller assistance.

Moreover, the Constellation system can support such applications on a national as well as international basis.

A key aspect of Constellation's LEO system is its basic organizational and business planning approach. By working through national service providers, Constellation will ensure that the gateway facilities and retail applications match national needs while providing for the introduction of new and innovative services already available in other countries. Moreover, Constellation intends to maximize the likelihood of its economic viability and commercial success by minimizing technical, economic, regulatory and market risks through its CDMA, bent-pipe satellite design and its phased growth approach to satellite capacity and cost. In doing so, Constellation is designing a spectrum efficient LEO satellite system that is compatible with spectrum sharing requirements while maximizing the likelihood of achieving a profitable global business.

Although the Constellation LEO satellite system will necessarily have to be operated as international business venture, significant benefits will flow to the United States public. In addition to the new services provided by the Constellation system within the United States, these subscribers will be able to take advantage of Constellation's services in other parts of the world through roaming agreements with national service providers in other countries. Moreover, major portions of the Constellation system, including the space segment and the gateway and network control segment are expected to be designed and manufactured in the United States. As the Constellation system evolves, it will offer continuing opportunities for

United States leadership and employment involving in space and communications technology.

III. The Commission's Licensing Policies For The 1610-1626.5 MHz and 2483.5-2500 MHz Bands For MSS Should Focus On Competitive Entry Into The Domestic MSS Market

Since the early 1970's, the Commission has sought to establish competitive markets for communications services. Virtually every service regulated by the Commission is now characterized by multiple entry and facility-based competition. However, the domestic MSS market structure, was established by the Commission in 1986, and is currently characterized by a single space segment L-band licensee formed as a consortium of the initial MSS applicants.[13] In establishing this structure, the Commission determined that the spectrum situation that existed in 1986 had certain unique characteristics that mandated such a result. These factors included: (1) none of the systems proposed was capable of sharing the allocated frequencies with another system; (2) even though mobile terminals could be designed to discriminate between two or more systems operating on the same frequency, doing so would involve unreasonable costs; (3) a large amount of bandwidth was necessary to support greater variety of services that were required to meet the needed large customer base, and (4) it would be impractical and difficult to

[13] The Commission has also authorized Qualcomm, Inc. to provide a low-speed MSS data service using transponders leased from domestic fixed-satellite service licensees in the 12/14 GHz bands. See Qualcomm, Inc., 4 FCC Rcd 1543 (1989).

divide the secondary and co-primary frequencies among the various MSS applicants.[14] However, the Commission did indicate that additional systems could be licensed in the future if additional allocations were made and it became technologically feasible to divide the available spectrum.[15]

These factors do not apply to the situation that currently exists in the 1610-1626.5 MHz and 2483.5-2500 MHz bands. For example, in its decision to authorize these bands for RDSS, the Commission established a multiple entry approach based on spread spectrum sharing. The Commission concluded that

> "while technical efficiency is a desirable goal, . . . the benefits of competition, including continued innovation will be best provided by independently licensed multiple systems. A design permitting only one system to operate would have to be unquestionably superior to justify a departure from this policy. Moreover, comparing the efficiencies of technically disparate systems becomes less meaningful if these systems are designed to provide different services. We will select the system design that best assures that the benefits of a competitive marketplace are made available to RDSS users".[16]

In the RDSS proceeding where the Commission was faced with either authorizing a single system or multiple systems using spread spectrum, it concluded that "independently operating RDSS systems which are possible through the spread spectrum technology will be more competitive than systems that only offer different

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[14] Second Report and Order in Gen Docket No. 84-1234, 2 FCC Rcd 485, 486 (1987).

[15] Id at n. 16.

[16] Second Report and Order in General Docket No. 84-689, 104 FCC 2d 650,654 (1986).

marketing possibilities. . . . "[17] Today, the systems being proposed are able to share the available spectrum and receivers that can discriminate between different satellite systems using CDMA techniques can be produced at a reasonable cost. Moreover, all the pending applicants can implement economically viable systems using the available spectrum. Finally, all the spectrum is allocated on a primary basis. Thus, there does not seem to be any reason to deviate from the initial policy goals articulated for the 1.6/2.4 GHz band.

The Commission now has the opportunity to fashion a competitive domestic MSS market along the same lines as its highly successful domestic satellite policies. Constellation submits that the Commission would do well to adopt the following domsat policy objectives for its policy objectives in this proceeding:

(a) to maximize the opportunities for the early acquisition of technical, operational, and marketing data and experience in the use of this technology as a new communications resource for all types of services;

(b) to afford a reasonable opportunity for multiple entities to demonstrate how any operational and economic characteristic peculiar to the satellite technology can be used to provide existing and new specialized services more economically and efficiently than can be done by terrestrial facilities;

(c) to facilitate the efficient development of this new resource by removing or neutralizing existing institutional restraints or inhibitions; and

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[17] Id. at 660.

(d) to retain flexibility in our policy making with respect to the use of satellite technology for domestic communications so as to make such adjustments therein as future experience and circumstances may dictate.[18]

Adoption of these objectives will ensure that the public receives the maximum benefit from this new innovative communication service.

A. Use of the 1610-1626.5 MHz and 2483.5-2500 MHz Bands For MSS Should be Limited to Non-Geostationary Satellite Systems

Constellation believes that the Commission's policy objectives for the 1.6/2.4 GHz MSS should focus on the basic qualification standards needed to achieve competitive entry in the domestic MSS market using the spectrum currently available. As a basic principle, Constellation supports the Commission's proposal that these bands should be limited to LEO systems.

Various national and international GSO MSS satellite systems are in operation and under development in the 68 MHz of conventional MSS L-band at 1525-1559 MHz and 1626.5-1660.5 MHz. As demonstrated in Section II of these comments, LEO satellite technology will make lower cost and more reliable MSS and RDSS service available to the public in this country and on a global basis. The new classes of service that will be provided by the 1.6/2.4 GHz MSS are not economically practical using current GSO MSS technology, particularly on a global

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[18] Domestic Communications Satellite Facilities, 35 FCC 2d 844, 846-47 (1972) ("Domsat II").

basis. As the Commission correctly recognizes, the LEO MSS industry, as compared to GSO MSS, is "uniquely positioned to foster social and economic benefits in the United States and throughout the world."[19] For this reason, Constellation fully supports the Commission's proposal to limit access to the 33 MHz of spectrum available to the 1.6/2.4 GHz MSS to LEO satellite technology.

B. Use of the 1610-1626.5 MHz and 2483.5-2500 MHz Bands For MSS Should be Limited To New Entrants To The Domestic MSS Market

There is currently no facility-based competition in the domestic MSS market. In 1987, the Commission decided to force the then pending MSS applicants into a consortium, now known as the American Mobile Satellite Company ("AMSC"), to construct and operate a single domestic MSS satellite system to serve the United States.[20] AMSC has already been authorized to construct and operate three MSS satellites, and each of these satellites will or is likely to have access to the 68 MHz of conventional MSS L-Band spectrum.[21] On the other hand, multiple LEO systems will be licensed in the 1610-1626.5 MHz and 2483.5-2500 MHz bands under any of

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[19] Notice, at 21.

[20] See Second Report and Order in Gen. Docket No. 84-1234, 2 FCC Rcd 485 (1987) and AMSC Authorization Order, 4 FCC Rcd 6041 (1989).

[21] AMSC has been granted a Section 319(d) waiver to include the lower MSS L-band on its first satellite and has pending applications to add lower MSS L-Band to second and third satellites. Nevertheless, the Commission has imposed a freeze on the filing of potentially competing MSS satellite systems in the lower conventional MSS L-band. See Notice of Proposed Rulemaking in Gen. Docket No. 90-56, 5 FCC Rcd 1255 (1990).

the licensing schemes that has been proposed in this proceeding. Until there is competitive entry in the conventional L-band MSS spectrum currently assigned to geostationary MSS systems, no entity who holds an L-Band MSS license should be eligible for a license in the 1610-1626.5 MHz or 2483.5-2500 MHz.

One requirement normally applied to existing licensees requesting additional spectrum resources is a factual showing that traffic demand exceeds or is likely to exceed available capacity.[22] AMSC's amendment to its application to add additional spectrum in the 1.6 and 2.4 GHz bands does not satisfy this requirement. As an existing licensee, AMSC should be required to make a factual showing that actual demand for its services exceed the capacity of its authorized facilities before additional spectrum resources are assigned to it. This type of procedure is a cornerstone of most of the Commission's radio licensing policies, and AMSC should be required to make a factual showing that the actual traffic demands on its system will exceed available capacity.[23] While AMSC has argued that it desires additional spectrum because of anticipated coordination problems in conventional L-band, it would be premature for the Commission to assign additional spectrum to AMSC

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[22] In the Domestic Fixed-Satellite Service, the Commission wanted to insure that the orbital resource is not being wasted. It therefore adopted "a rule assigning each licensee one additional orbital location in each frequency band in which it is authorized to operate provided that it has no more than two unused orbital locations authorized but unlaunched satellites in that band." Report and Order in CC Docket No. 85-135, 50 Fed. Reg. 36071, at para. 23 (Sept. 5, 1985) (1985 Domsat Order). There is no discernable reason that can be identified to allow the single existing MSS licensee, unlimited access to the spectrum resource when that licensee has yet to launch its first satellite.

[23] See 47 C.F.R. § 25.140(f), (g) and (h) (1993).